

Claims

1. Regenerator of combustion exhaust gases (VG) with an exhaust gas catalytic converter (KAT), characterised by the fact that the hot operated catalytic converter (KAT) adjoins to a high temperature resistant diffusion-membrane (MEM), which, then again, adjoins to a reclaim collector (RS) with less internal pressure (p_r) than the pressure (p_k) in the catalytic converter, respectively, and that the thus accumulating reclaim gas (RG) is fed into a combustion unit (COMB), upstream of the regenerator, as additional fuel, and/or to be used otherwise chemo energetically.
2. Regenerator according to claim 1, characterised by the fact that the diffusion membrane (MEM) consists of a high temperature-resistant micro porous open pored ceramic.
3. Regenerator according to claim 2, characterised by the fact that the membrane (MEM) consists of earthy base aluminates and or silicates.
4. Regenerator according to claim 2, characterised by the fact that the membrane (MEM) consists of aluminium oxides and/or zirconium oxides.
5. Regenerator according to claim 1, characterised by the fact that the membrane (MEM) is held in a fitting mounting (E) in a casing (G) that is welded with a frame R on one of the walls (W) of the catalytic converter (KAT).
6. Regenerator according to claim 5, characterised by the fact that the membrane (MEM) features an edge (R), tapering in the direction of the pressure gradient (p_k , p_r).
7. Regenerator according to claim 1, characterised by the fact that the membrane (MEM) on the side of the reclaim collector (RS) is supported by a perforated sheet (B).
8. Regenerator according to claim 7, characterised by the fact that at least one electric glow plug (GK) and/or fuel-supplied flame glow plug is/are inserted in the wall (W) or the thick-walled side (DW) or the frame (R) for the heating of the catalytic converter.
9. Regenerator according to claim 1, characterised by the fact that the catalytic converter (KAT) is equipped upstream and downstream with one baffle plate (P1, P2), respectively.

10. Regenerator according to claim 1, characterised by the fact that the catalytic converter (KAT) contains at least one lamellated block, coated with a catalyst metal, which is perforated by lateral ducts (Q) that end near to the membrane (MEM).

11. Regenerator according to claim 1, characterised by the fact that the catalytic converter (KAT) is encased in an insulating layer (WD).

12. Regenerator according to claims 1, characterised by the fact that the combustion unit (COMB) is supplied with air (L) and a hydrocarbon fuel (BS) by a control device (RV), which is connected with a lambda probe (S) upstream to the catalytic converter (KAT).

13. Regenerator according to claim 12, characterised by the fact that water spray or water vapour (D, D*) is injected in controlled amounts directly into the combustion unit (COMB) or the catalytic converter (KAT).

14. Regenerator according to claim 1, characterised by the fact that the combustion unit (COMB) is a combustion power engine.

15. Regenerator according to claim 14, characterised by the fact that an air charging device is connected upstream to the combustion power engine (COMB).

16. Regenerator according to claim 14, characterised by the fact that a silencer (SD) is connected downstream to the catalytic converter (KAT).

17. Regenerator according to claim 14, characterised by the fact that the reclaim gas (RG) is fed into an intake duct (AS) of the combustion power engine (COMB) via a reclaim pipe (RL).

18. Regenerator according to claim 1 characterised by the fact that the diffusion membrane (MEM) consists of multiple circular single membranes, each of them framed in a high temperature resistant metal socket (2) and inserted leak proofly into a mounting plate (3).

19. Regenerator according to claim 18, characterised by the fact that the mounting plate (3) consists of at least two high-grade steel plates (30, 31) with interlaying gaskets (4), and that sockets 2 by high pressure squeezing are inserted into the mounting plate (3).

20. Regenerator according to claim 19, characterised by the fact that the gaskets (4) consist of a maceous sealing matter, and the mounting plate (3) is bolted with interlaying maceous gaskets (5, 6) between one wall (W) of the catalytic converter (KAT) and the reclaim collector (RS).